



# Our GSCS Platform

## C&W's Supply Chain Global Consulting Alliance



### North America

St. Onge Company  
Cushman & Wakefield  
**236 GSCS Professionals**

### Europe

St. Onge / Buck Consultants  
Cushman & Wakefield  
**115 GSCS Professionals**

### Asia

St. Onge / Orient Logistics  
Cushman & Wakefield  
**77 GSCS Professionals**

### Advantages:

- Dedicated Global Supply Chain Solutions (GSCS) professionals located in three continents
- End-to-End Supply Chain Capabilities
- Exclusive partnership between C&W and St. Onge Company, over 100 projects together

# \$3.7 BILLION STEEL MILL LOCATION CONSULTING PROJECT

## THYSSENKRUPP STEEL AND STAINLESS

TYPE OF WORK PROVIDED: COMPREHENSIVE LOCATION STRATEGY AND SITE SELECTION

LOCATION: EASTERN UNITED STATES

Since 2004, C&W Business Consulting has provided location strategy and decision-support services to ThyssenKrupp's Steel and Stainless segments associated with facility investments totaling over \$4 billion in Asia and the United States. Most recently, C&W provided comprehensive supply chain strategy, site selection, infrastructure and labor-market due diligence, decision support, and incentive negotiation services guiding ThyssenKrupp to the successful location of a \$3.7 billion, 2,700-employee steel processing facility to be built near Mobile, Alabama.

### APPROACH

- Identified critical location factors and search area based on ThyssenKrupp's market access objectives, transport mode requirements (port, river, rail), and extreme site and infrastructure needs.
- Conducted desktop and field evaluation of nearly 70 sites across 19 states to identify feasible options for further due diligence.
- Focused on Gulf Coast region via screening analyses on key operating conditions and costs: inbound/outbound logistics, labor costs, as well as transportation and utility infrastructure and rates.
- Executed efficient and logical decision-support process to facilitate site-elimination progression from ~70 sites to two finalists.
- Completed parallel, in-depth labor market studies, financial analyses and negotiations in three finalist locations in the southeastern United States.
- Maintained a central project management role in coordinating third-party service providers and government agencies required to serve ThyssenKrupp's needs.

### RESULTS

- Completed multiple due diligence programs under aggressive time frame: supply chain configuration, site construction requirements, incentives feasibility, and labor market analysis.
- Identified and vetted two suitable finalist locations: one each in Louisiana and Alabama.
- Comprehensive financial comparison of the finalists, and thorough assessment of operational advantages, disadvantages and risks.
- Maintained confidentiality of corporate identity throughout the project (until revealed by ThyssenKrupp) and facilitated constructive government relations and project positioning.
- Incentives packages totaling \$811 million in Alabama and \$1.8 billion in Louisiana were negotiated prior to ThyssenKrupp's final selection of Alabama in May 2007 for the project.



# Top 10 Distribution “Trends”: All Impact Network Strategy & Facility Strategy

1. **Oil Prices Rising**. Rising oil prices have resulted in some companies re-evaluating supply chains and distribution networks in an attempt to offset cost increases. More facilities are likely, especially pool points and cross docks.
2. **Increases in Inventory Levels**. As oil prices and supply chain risk increases, inventory holding levels are expected to rise. As a result of higher transportation costs, many shippers are likely to move away from quick and frequent deliveries to slow and less frequent shipments.
3. **Near-shoring**. A shift towards regional supply chains, or nearshoring, is resulting in manufacturing moving closer to customer-bases. Rising costs such as oil prices and labor costs are being attributed to this shift.
4. **Rising E-commerce**. To support online sales brick and mortar retailers are expanding their distribution facilities. Some will utilize mega-distribution facilities to support both online and in-store inventory, others will build separate, e-commerce divisions.
5. **More Intermodal**. The increasing transport of freight via several modes of transportation has led to the construction of intermodal hubs. More of them are becoming logistics hubs. Besides storage of inventory, value-added services such as kitting, light manufacturing and reverse logistics are also offered in such locations.
6. **Larger Space**. Throughout 2010-2011, companies took advantage of lower vacancy rates and “traded up” to larger warehousing and distribution facilities. Many markets are experiencing a shortage of large, quality blocks of space.
7. **More Containerized Imports**. Over the past ten years, containerized imports have become one of the most important drivers of demand for warehousing and distribution centers in the US. This will continue going forward.
8. **Expansion of the Panama Canal**. The expansion of the Panama Canal is a driving force for port infrastructure activities across the SE region. With two-thirds of the US population located East of the Mississippi, some products that had previously transported across the country from the West Coast may now remain on vessels to Eastern ports.
9. **Interest in Sustainability**. Sustainability measures have been on the rise for many businesses for a variety of reasons such as lowering costs, to customer pressures and to simply “it’s the right thing to do”.
10. **Trade with South America**. Trade has steadily increased between the US and South America. Brazil is one of the largest trade partners of the US. Demand in locations such as Miami and Houston is being driven from existing tenants already in the market:, renewals, relocation and expansion.

Location Strategy Connects Network Strategy with Real Estate Strategy.

# Top Distribution “Trends”: The Big Ones

- How & Where People Buy/Consume
- Who Will Work in These Facilities.....Labor
- Costs to Ship/Shipping Requirements
- Operating Costs (e.g. Power)
- Incentives

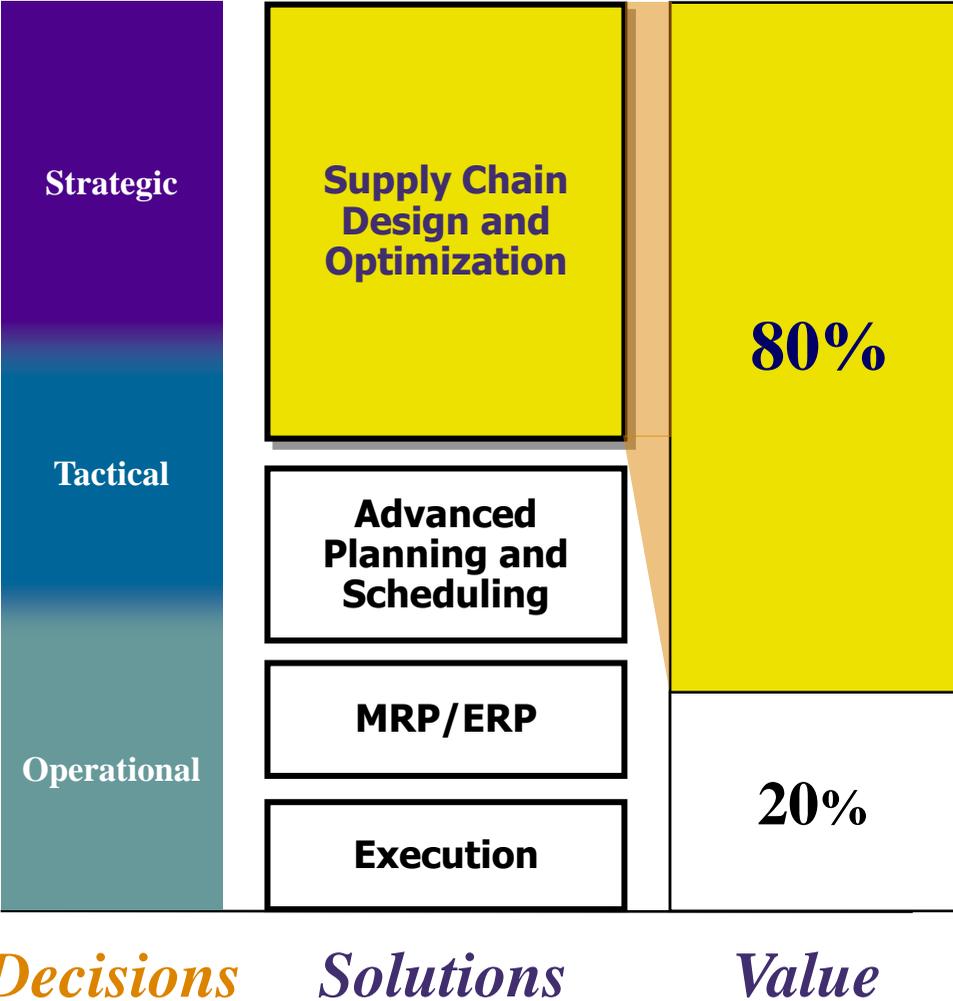
Location Strategy Connects Network Strategy with Real Estate Strategy.

# Difficult Location Decisions

Clearly, for each user of industrial space the drivers of location choice are unique. Typically, the decision comes down to the relative importance of the following variables:

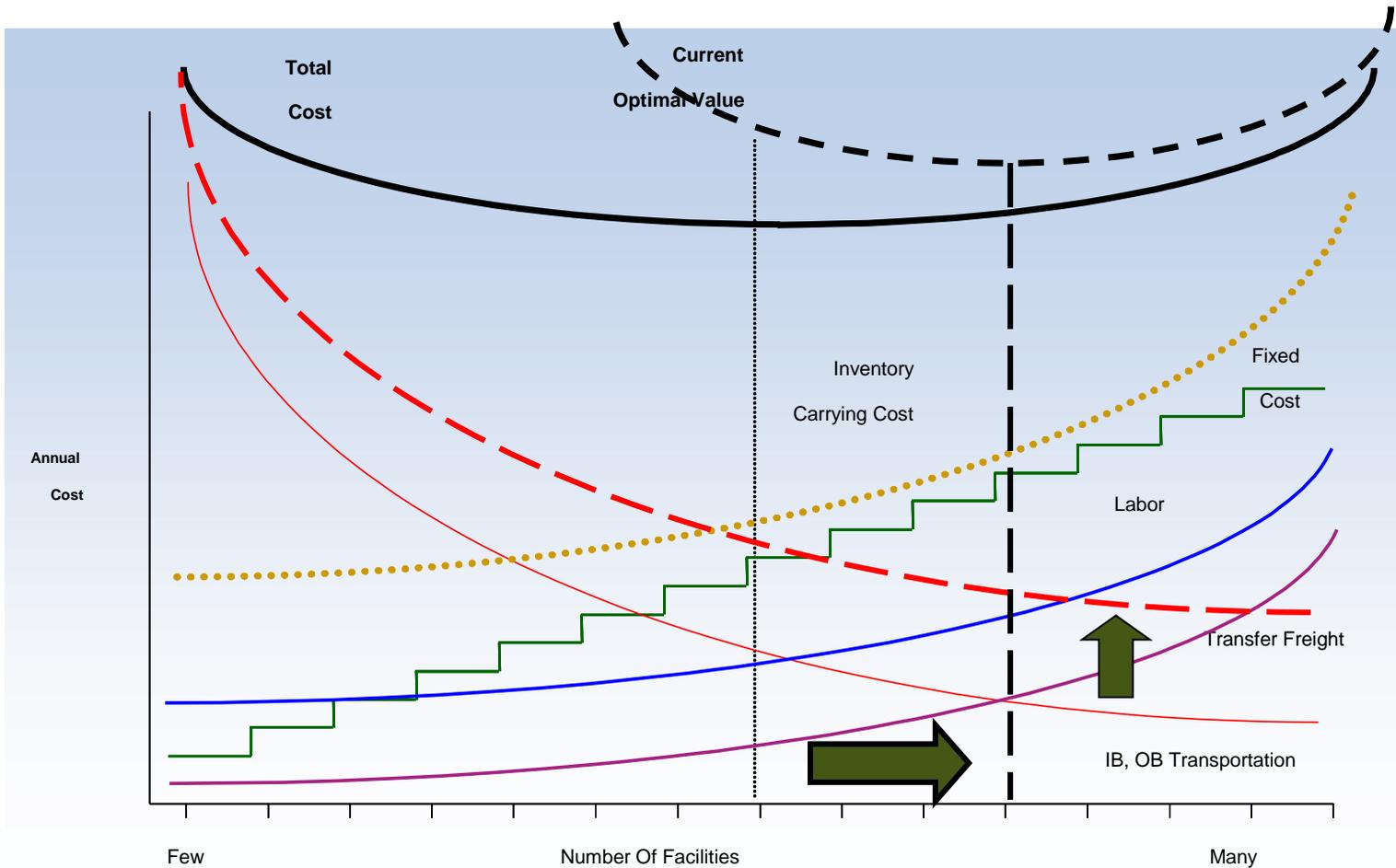
- Operating factors:
  - Labor supply volume and skills;
  - Customer proximity;
  - Utility service providers: Electric, natural gas, water;
  - Transportation service providers: Rail and port service provider; and
  - Government support, business climate, and environmental emissions limits.
- Operating costs (which can vary greatly by location):
  - Electric power (100% cost variation in the U.S.);
  - Supply chain and material handling costs (road, rail, water transport);
  - Labor costs (33% cost variation in the U.S.);
  - Taxes on land, equipment, inventory, and building (100% variation in the U.S.);
  - State government incentives (100% variations in the U.S.).

# Complexity = Anxiety? Network Decisions Significantly Define Future Success



Source: AMR Research

# Network Impact of Higher Transportation Costs



Mid term implications: more facilities, smaller on average, closer to population centers, to remove miles from networks

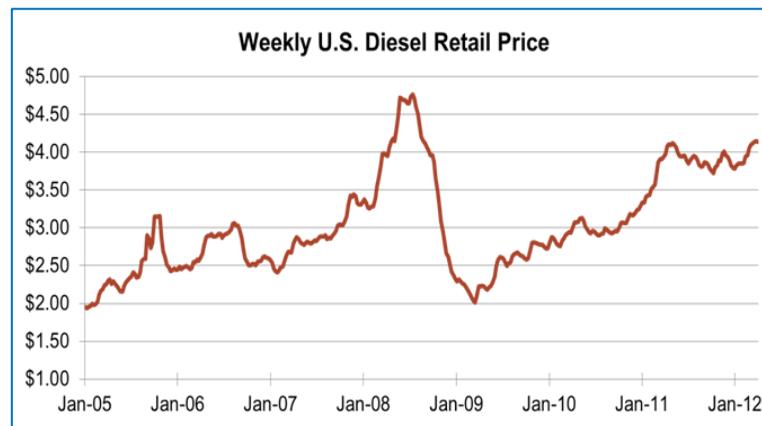
# AFFECT OF TRANSPORTATION TRENDS ON INDUSTRIAL SPACE

## Transportation Costs on the Rise

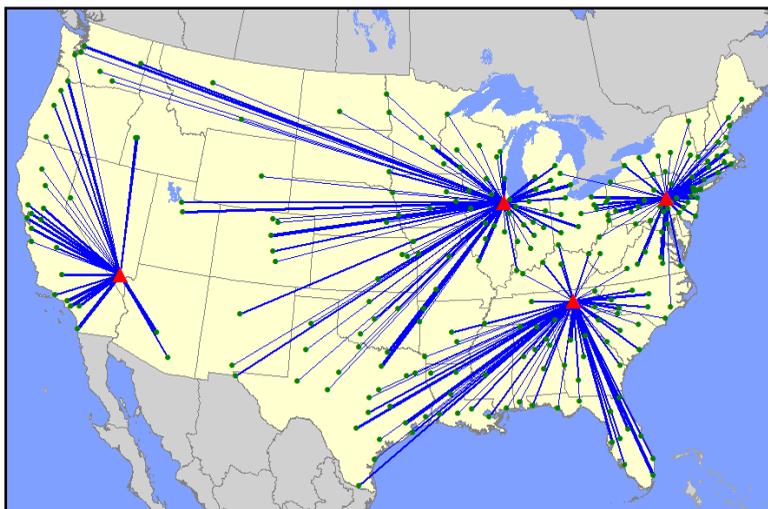
- Fuel prices back near the frightening 2008 high
- Regulations, congestion, driver shortages, etc.
- TL \$/mi. inflation from 2000 to 2010: 0% (not sustainable)
- Trucking industry experts are expecting a significant rise, with volatility, in pricing in the next 18 months

## Transportation Costs Drive Facility Footprints:

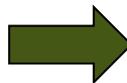
- Need to remove empty miles while maintaining high service levels
- More DCs, closer to customers, smaller on average
- Does add challenges for properties not adjacent to population density



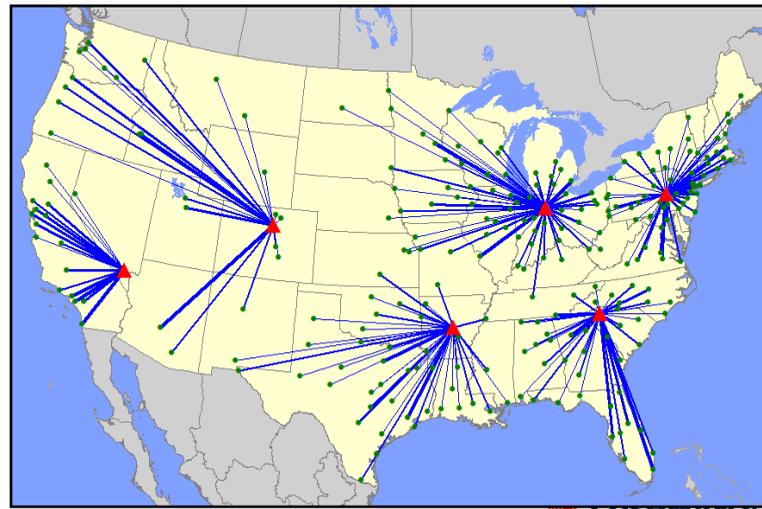
Large Food Company, 4 Mixing Centers



Fuel from  
\$2.50 to  
\$4.50/gal

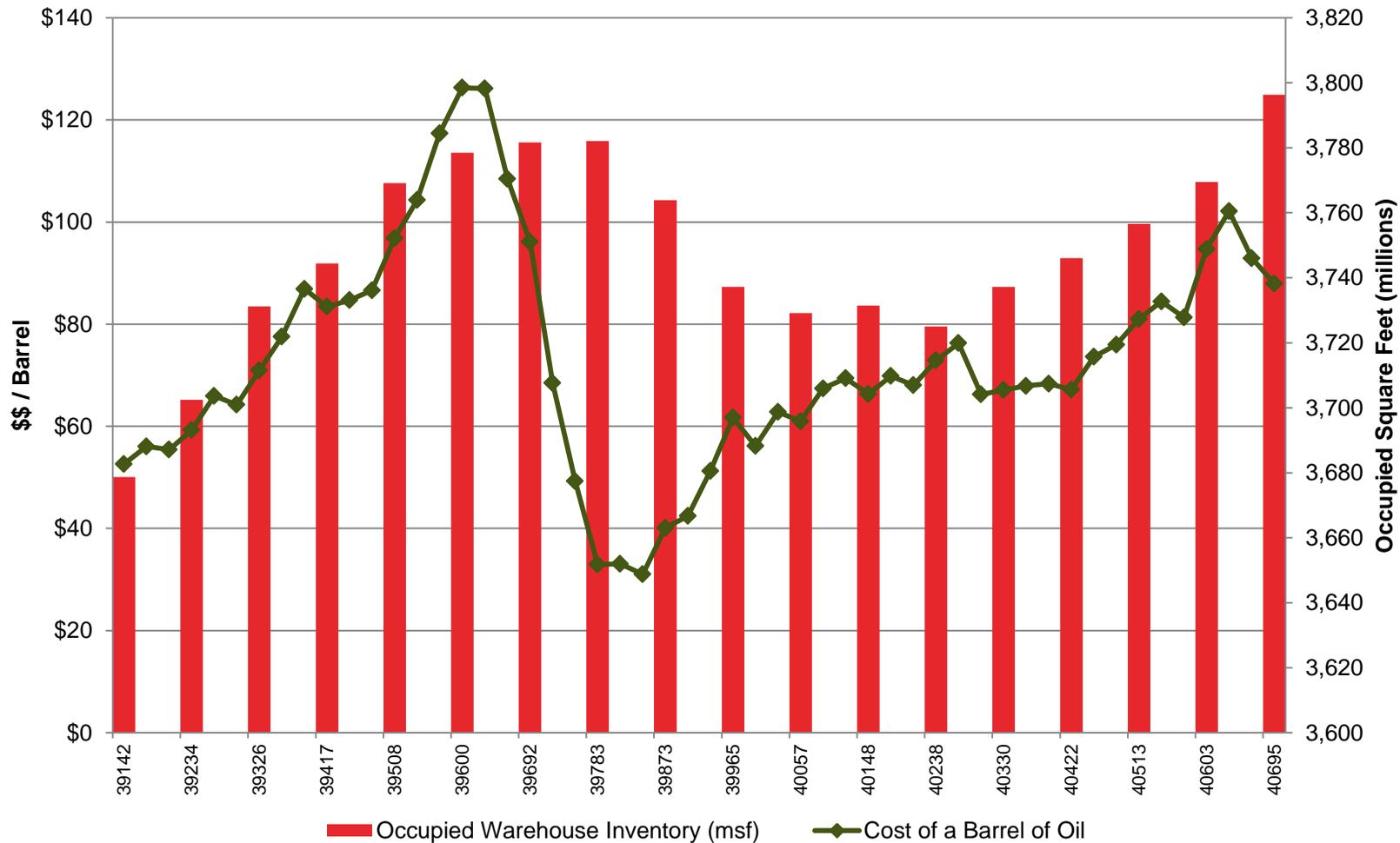


Large Food Company, 6 Mixing Centers



# Is it TERRIBLE News??

## Oil Prices vs. Warehouse/Distribution Occupancy



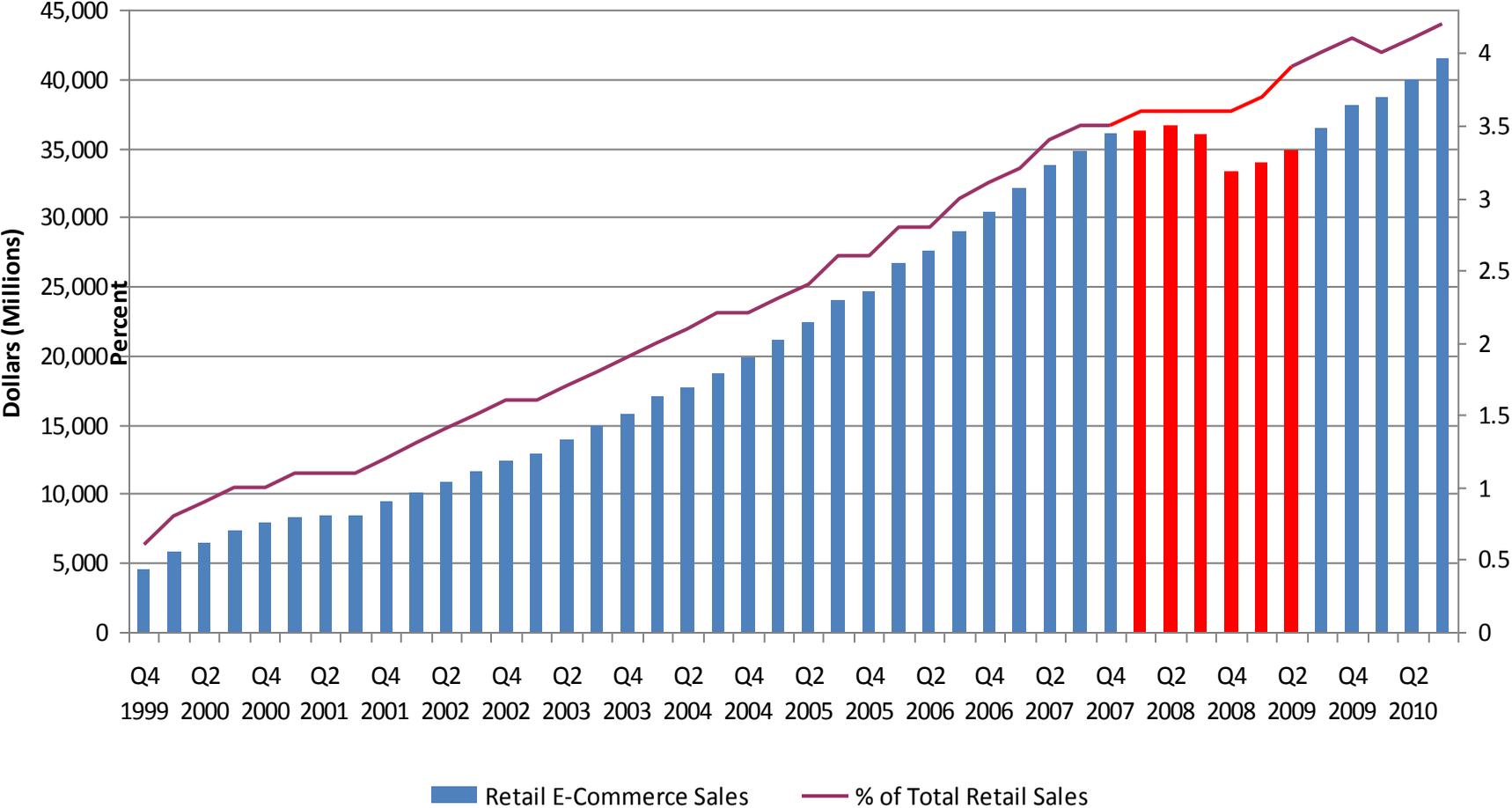
# Trend: Retail at a Crossroads



# Trivia

- What percent of retail sales in the U.S. is E Commerce?

# The Amazon Effect – the rapid, steady rise of online purchasing

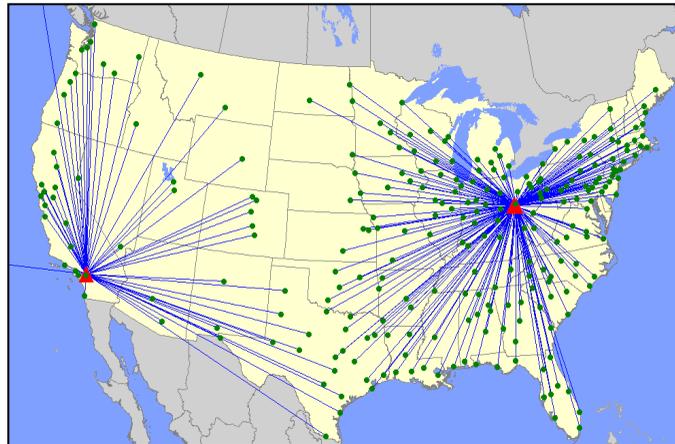


# Internet Fulfillment Distribution Centers

- E-commerce is growing, and its supporting facilities often cannot and need not co-locate in companies' traditional DCs.
  - **Differ by: Order size, labor intensity, customization, seasonal ramping.**
- Fulfillment centers' location priorities differ from traditional centers.
  - **Labor supply and costs trump transportation and logistics factors.**
  - **Need not be near major population centers due to much lower cost sensitivity of ground-parcel shipments versus distance.**

## Standard Retailer

1. Outbound Freight
2. Labor Cost/Supply
3. Inbound Freight
4. Fixed Costs



## Dot-Com Retailer

1. Labor Cost/Supply
2. Outbound Freight
3. Inbound Freight
4. Fixed Costs

***Conclusion: Areas beyond traditional DC markets with ample, low-cost labor may be attractive to fulfillment centers. Incentives focused on job-creation and sales/property taxes will help.***

# Target Stores: Labor Requirements Case Study....Tucson?

Case Example: Target Western e-commerce Fulfillment Center: Non-traditional location

- Location decision driven by:
  - Lower competitive demand (vis-à-vis Phoenix) for labor
  - Land costs 3X cheaper than Phoenix
  - Maximum labor cost savings
  - Significant supply resources for PT, seasonal (Pima Community College & U of A)
  - Inbound freight rail served from Port in Long Beach, CA
  - Proximate to interstate highway
- Received over 16,000 applicants for 300 positions during initial ramp-up (2008)
- Targeted Households total over 118,000



# Trend: Mode Growth and the Panama Canal Effect

- Also known as the “if we dig a ditch, will they come?” effect



# Container ships continue to grow in size



**Largest today:**

***Emma Maersk* (14,000 TEU)**

**Draft = 51 feet**

**Panama Canal limit today:**

**4,500 TEU**

**Draft = 36 to 43 feet**

Source: Norbridge research and analysis

# PORT TRAFFIC MODELING AT A CROSSROADS:

Key words: Capacity, Costs, Discretionary

## Last 10 Years

Long-term Trend for Ports: Strong Growth

- The explosion of trade with China
- 1990-2011: +4.8% (Pacific), +4.4% (Atlantic), +5.8% (Gulf)
- Shares have changed slightly over the years:
  - Pacific & Gulf Coast shares up slightly over the period
  - Atlantic Coast share down from 42.1% to 39.9%

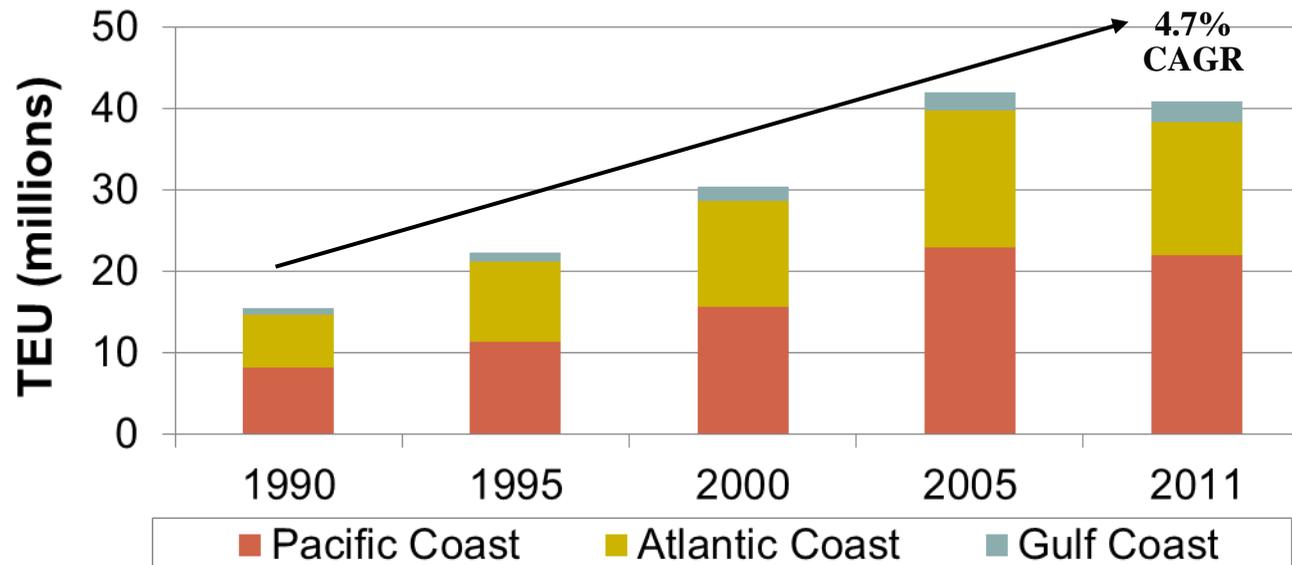


## Next 10 Years?

Growth Continues, w/ Some Shift in Port Share

- US manufacturing rebound, China labor arbitrage shrinking: SE US growth, more imports & exports
- Expansion of Panama Canal, improved logistics facilities across region
- Population growth in SE US
- Leads to some share gain for Atlantic seaboard ports

### North American Container Throughput by Coastal Region



# Labor Cost

- According to an annual survey conducted by Area Development magazine, Labor Costs consistently rank as the #1 (2009) or #2 (2010) factor in industrial site selection. As such, we believe it is critical to provide clients visibility into potential labor cost conditions prior to a site decision.

Site selection factors		
	2010	2009
<b>Ranking</b>		
1. Highway accessibility	97.3	92.9 (2)**
2. Labor costs	91.0	96.7 (1)
3. Tax exemptions	90.9	88.4 (3)
4. Occupancy or construction costs	89.8	86.7 (7)
5. State and local incentives	89.3	84.9 (8)
6. Corporate tax rate	86.3	87.0 (5)
7. Availability of skilled labor	85.9	86.9 (6)
8. Inbound/outbound shipping costs	84.0	81.7 (10)
9. Energy availability and costs	82.1	88.0 (4)
10. Availability of buildings	81.0	75.7 (12T)
11. Low union profile	75.4	75.8 (11)
12. Environmental regulations	74.8	71.2 (17)
13. Availability of land	73.4	75.7 (12)
14. Availability of advanced ICT services	72.9	83.2 (9)
15. Expedited or "fast-track" permitting	68.2	72.2 (16)
16. Right-to-work state	67.9	74.0 (14)
17. Proximity to major markets	66.4	73.3 (15)
18. Proximity to suppliers	63.6	63.9 (19)
19. Raw materials availability	61.5	57.0 (21)
20. Availability of long-term financing	58.5	65.4 (18)
21. Training programs	56.7	61.7 (20)
22. Accessibility to major airport	50.0	49.0 (23)
23. Availability of unskilled labor	45.4	55.5 (22)
24. Proximity to technical university	36.1	36.7 (24)
25. Railroad service	36.0	27.4 (25)
26. Waterway or oceanport accessibility	21.9	17.7 (26)

# Convergence of labor issues compound the need for companies to rethink HOW and WHERE talent is sourced

<b>Driver</b>	<b>Issue</b>
Aging	Large scale retirement of Baby Boomers and not enough GenXers, Gen Y to replace experience
Employee Market	People can be more selective of their field and employer, potential wage pressure
Generational Change	Where to attract new workers and how to manage culture is changing
Urbanization	Popularity of urban living, movement away from industrial occupations
Flat World	People are a strategic differentiator between competitors

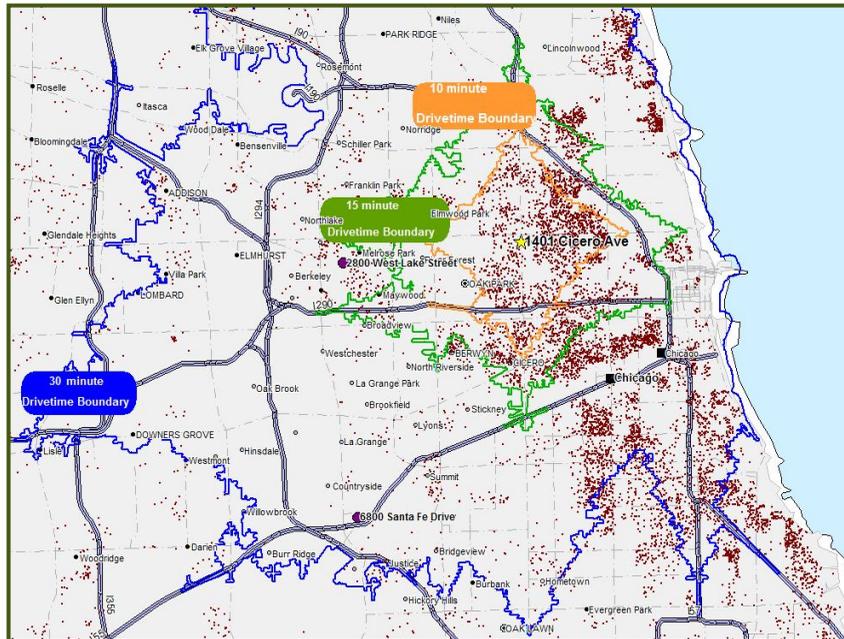
# DISTRIBUTION AT A CROSSROADS: MPL v. MPK

The evolution of labor markets is affecting location strategy and property values and the viability of current facilities:

- Fewer industrial workers, living more urban – Gen Y, aging workforce
- Labor costs rising – retailers addressing w/ higher investments in automation

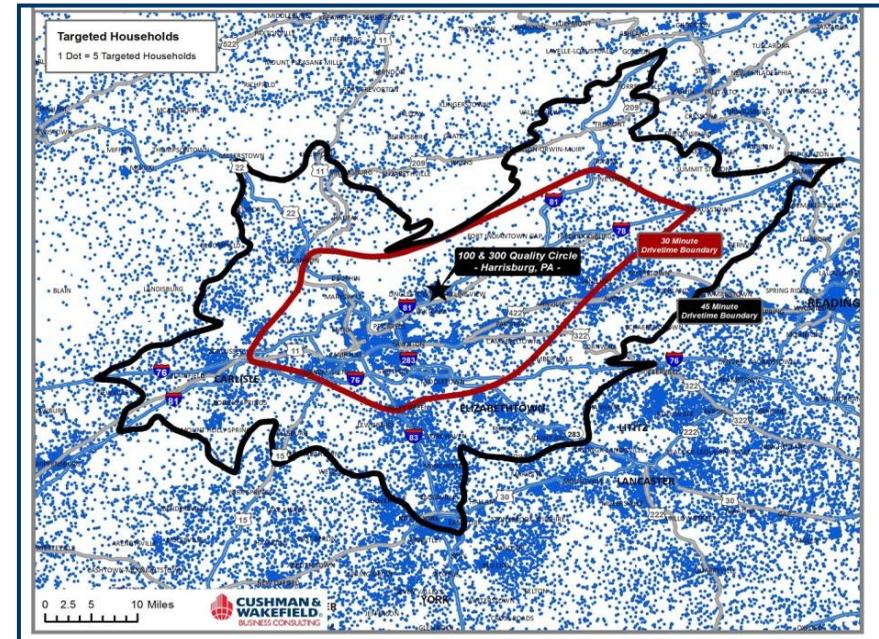
## Chicago...Not Easy

- Huge demand...you have to be here to serve
- Labor market thins outside the urban metro
- Labor is expensive, 5 to 12% above US Avg.



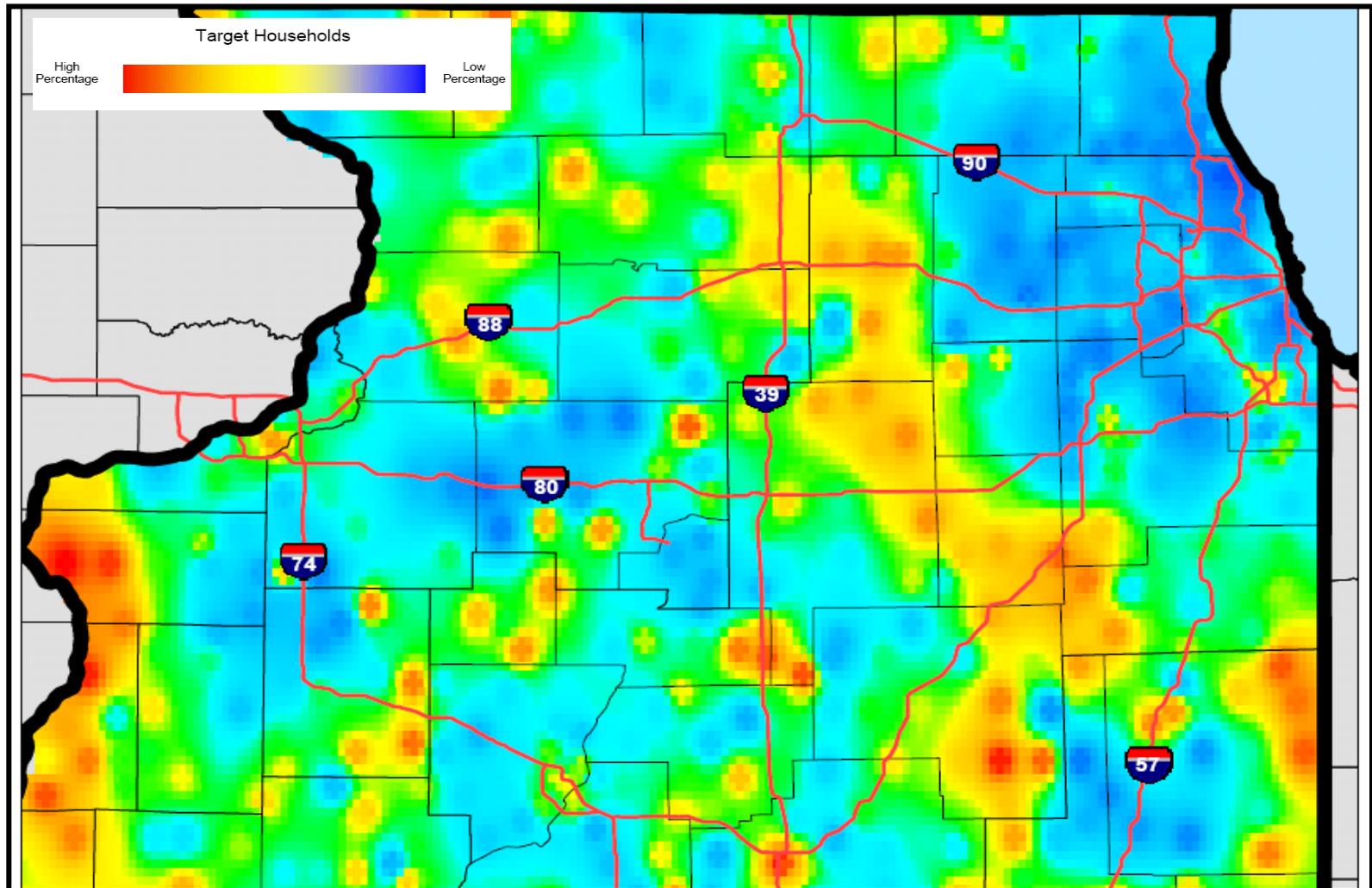
## Harrisburg.....Also, Not Easy

- High volume, high density of target labor
- More affordable...a few points below US Avg.
- Highly saturated....everyone is nearby w a DC



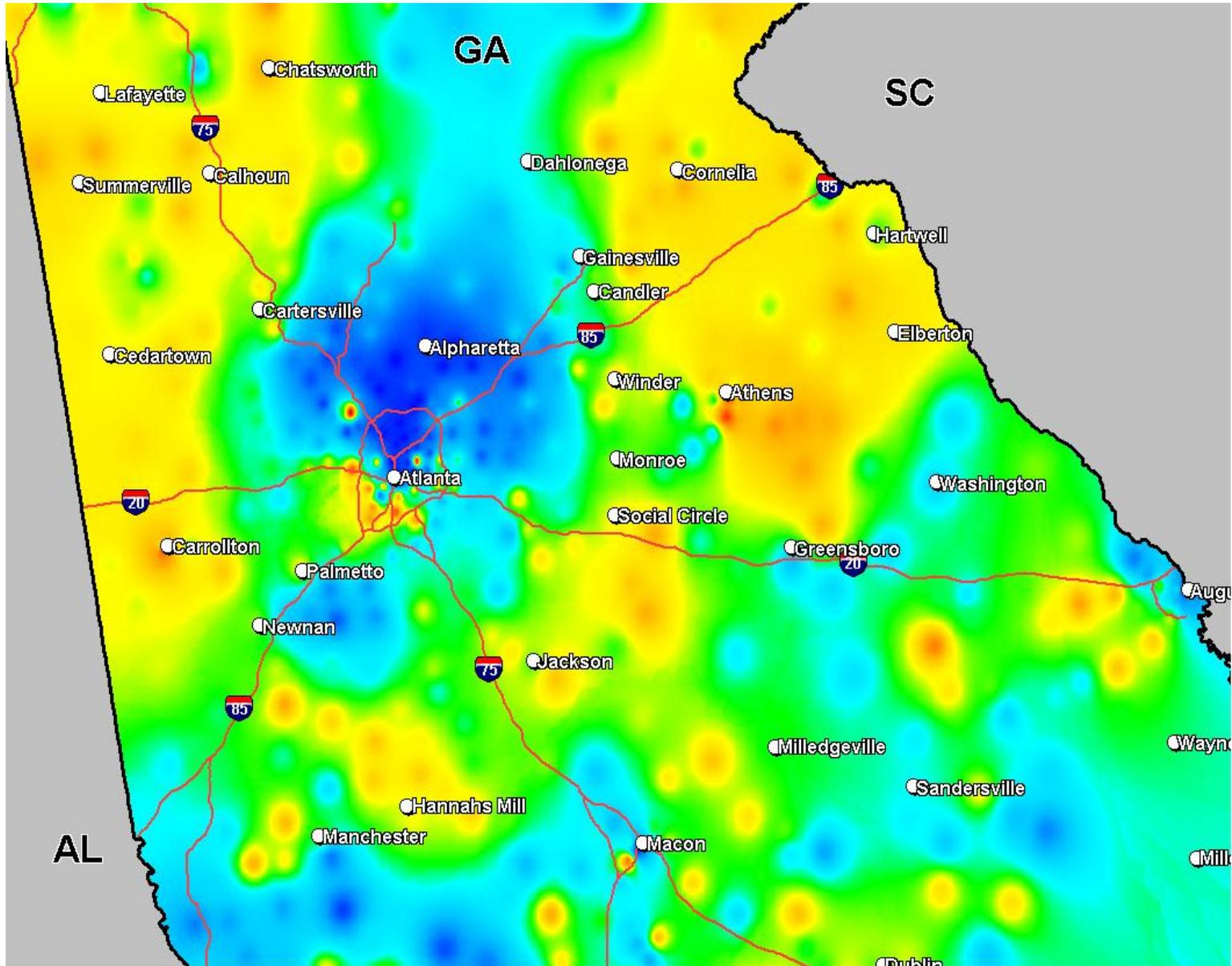
The workforce profile surrounding a facility is more important to its value than ever before, and must be understood

# Preferred industrial labor generally lives further from demand centroids



Density of target households in and around Chicago – moving your operations closer to the city could represent significant employment risk

# Fewer Industrial Employees, Living More Remotely

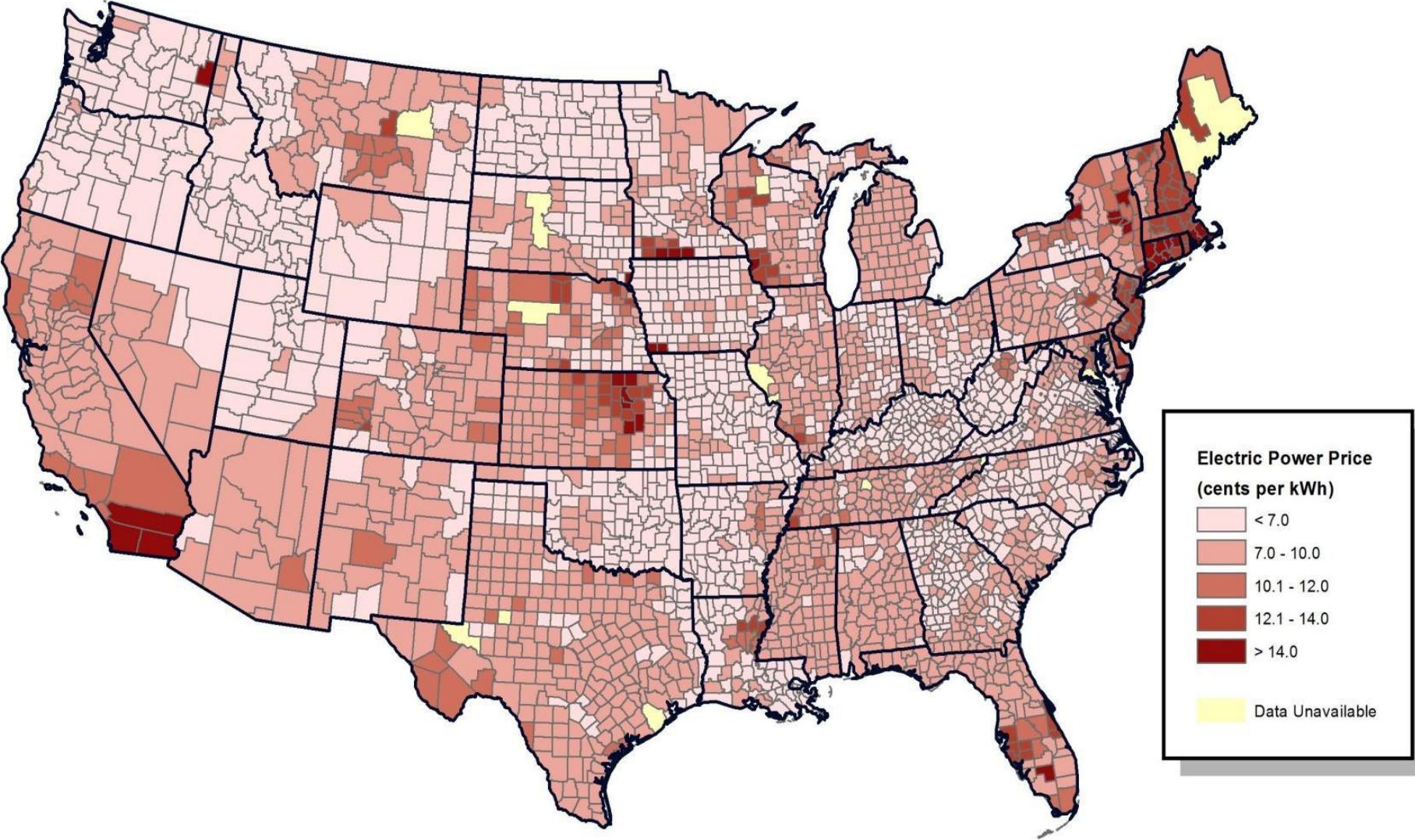


# China's Labor Gap.....Shrinking



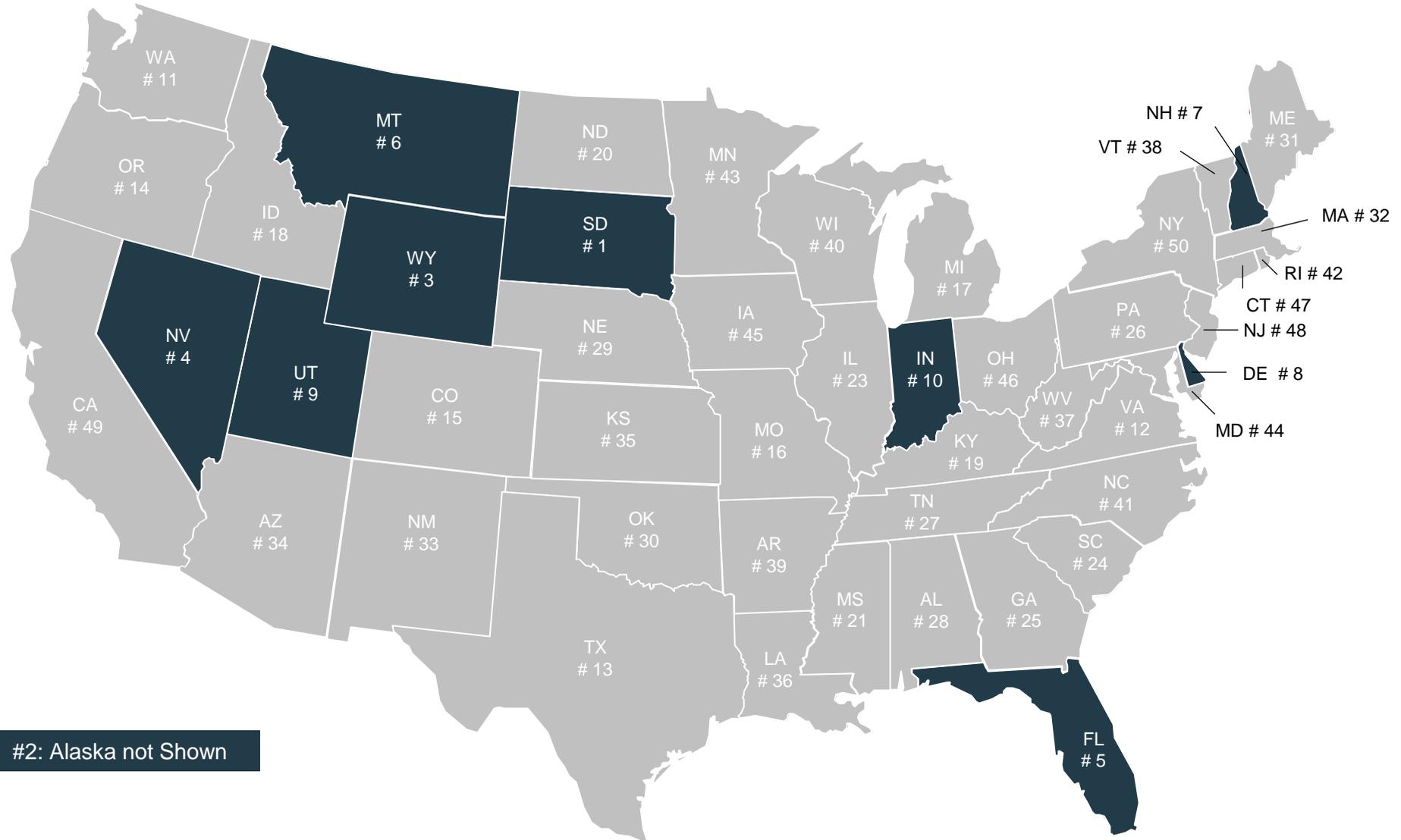
# Power Costs are HIGHLY variable

## Average Industrial Electric Power Retail Price by County, 2008-2010 (cents/kWh)



Source: *Electric Sales, Revenue, and Average Price Industrial Sector*, U.S. Energy Information Administration.

# 2011\* Top 10 States - Overall Tax Climate Index\*\*



#2: Alaska not Shown

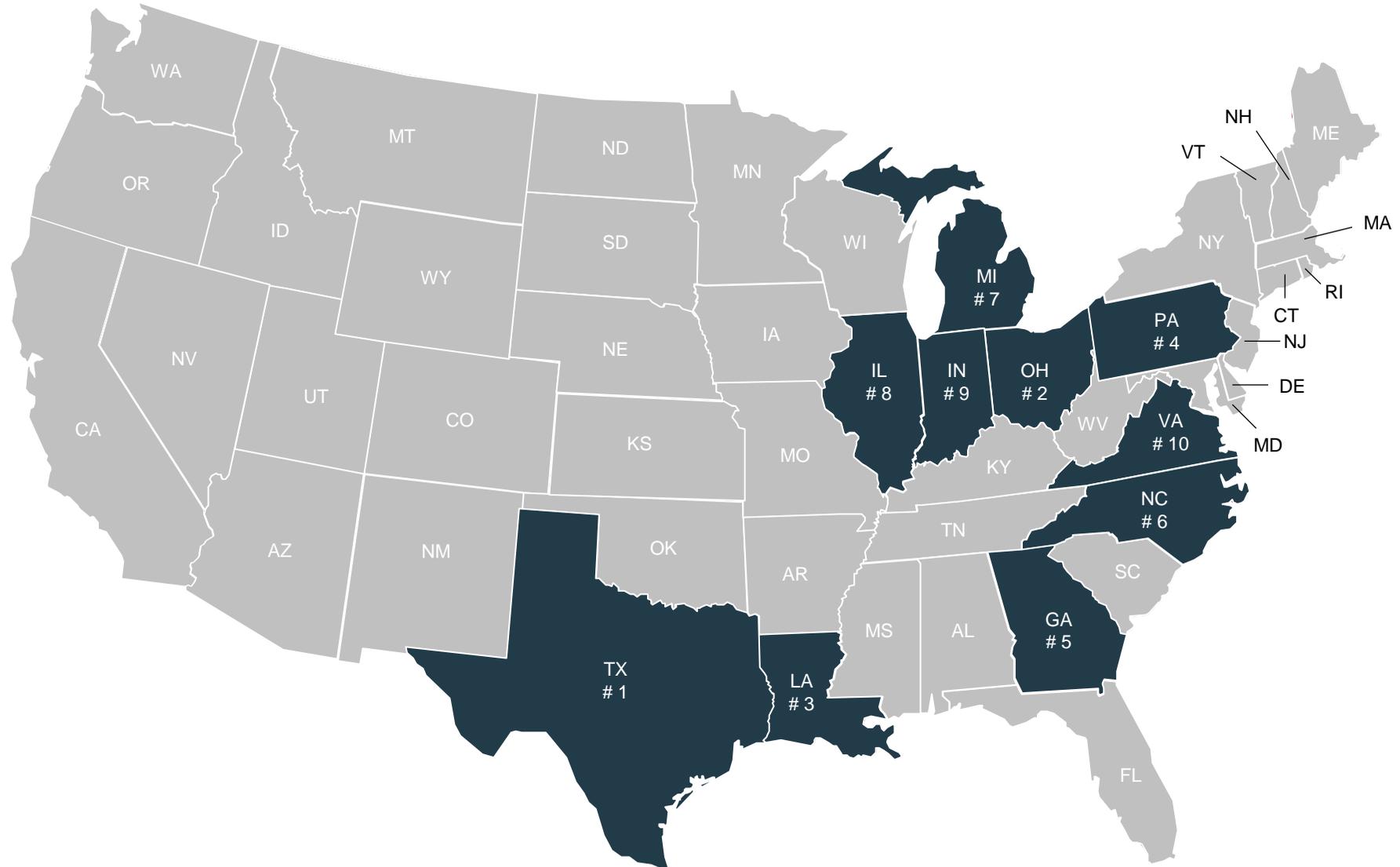
\*Fiscal Year 2011: July 1, 2010 – June 30, 2011

\*\*Tax Climate Index includes corporate, individual, sales, unemployment, and property taxes.

Source: Tax Foundation.

# INCENTIVES: 2010\* Top 10 States – By Number of Projects\*\*

Prediction: Significant pending variances in states' financial conditions will have a big role in the next 10 years

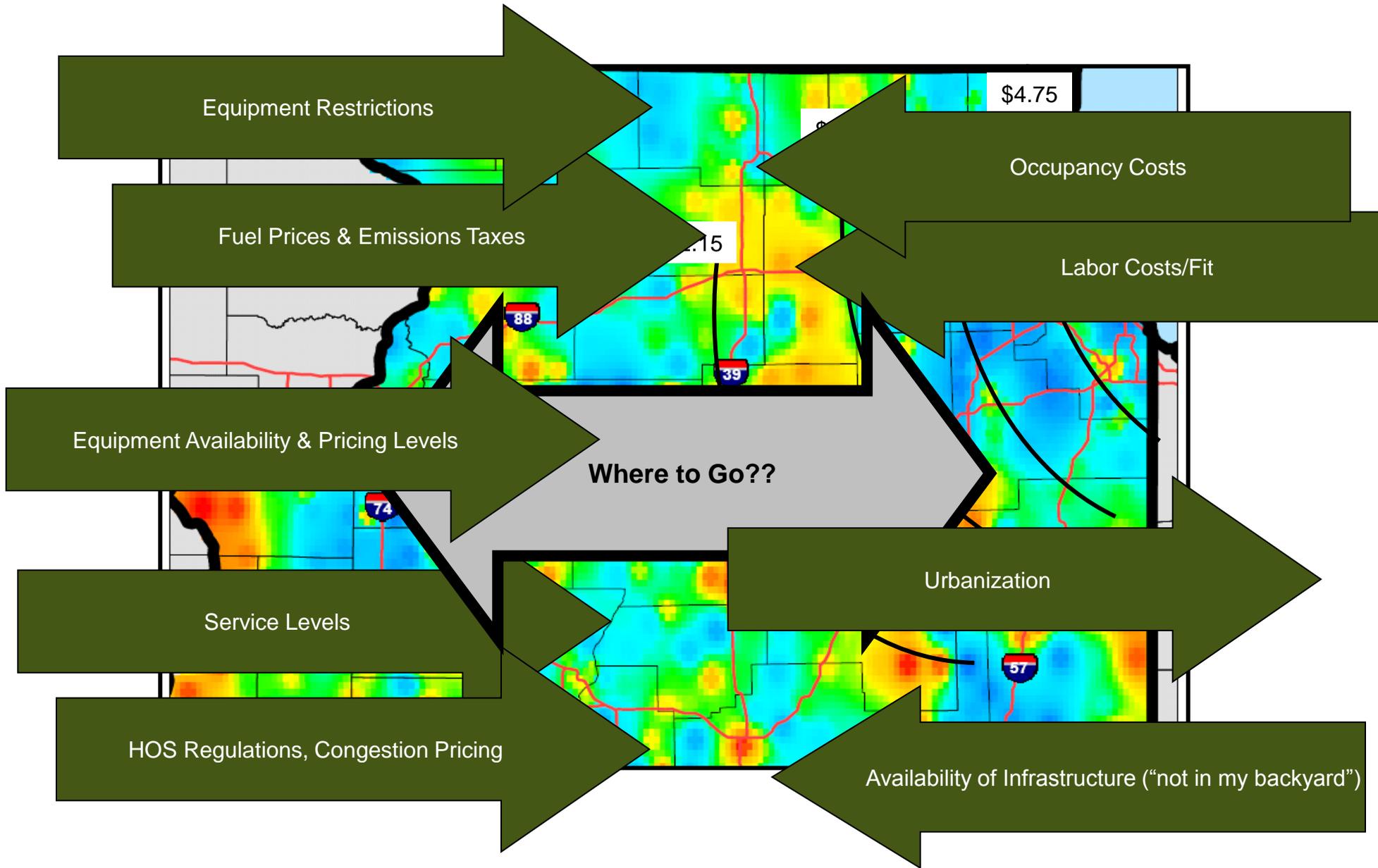


\* Calendar year.

\*\* Capital Investment =>\$1 million, 50 new jobs or 20,000 sf of construction.

Source: Site Selection Magazine.

# Critical Variables Working Against Each other, Making Location Decisions More Difficult



# QUESTIONS?



 **CUSHMAN & WAKEFIELD**  
Global Real Estate Solutions

 **St. Onge**  
ENGINEERING  
THE IDEAL COMPANY

 **CUSHMAN & WAKEFIELD**  
BUSINESS CONSULTING